

FULL VERSION OF PENDING CLAIMS

1 Claim 1 (currently amended): A negative ion emitting apparatus comprising:

2 a DC high-voltage power supply section;

3 at least one discharge electrode section connected to the DC high-voltage power
4 supply section for emitting negatively charged electrons, the discharge electrode section having a
5 proximal end and a distal end; and

6 at least one load resistance section arranged between said DC high-voltage power
7 supply section and said discharge electrode section so as to restrict flowing of electrons from
8 said DC high-voltage power supply section to said discharge electrode section until a
9 predetermined voltage is applied,

10 wherein the discharge electrode section is operatively connected at a proximal end
11 to a load resistance section so that current flows from the DC high-voltage power supply section
12 through the load resistance section to the proximal end of each discharge electrode section
13 causing negatively charged electrons to be emitted from a distal end of the discharge electrode
14 section.

C2 1 Claim 2 (original): A negative ion emitting apparatus as defined in claim 1, wherein said

2 DC high-voltage power supply section is connected to said load resistance section and discharge
3 electrode section through a high-voltage wiring.

1 Claim 3 (currently amended): A negative ion emitting apparatus as defined in claim 1,

C3 2 wherein said discharge electrode section is constituted by a needle electrode which is formed to

3 be pointed at a the distal end thereof with an acute angle to a longitudinal axis of the needle
4 electrode.

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1 Claim 4 (previously amended): A negative ion emitting apparatus as defined in claim 2,
2 wherein said discharge electrode section is constituted by a needle electrode.

1 Claim 5 (original): A negative ion emitting apparatus as defined in claim 1, wherein the
2 amount of negative ions emitted is varied by varying a load resistance of said load resistance
3 section.

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1 Claim 6 (original): A negative ion emitting apparatus as defined in claim 2, wherein the
2 amount of negative ions emitted is varied by varying a load resistance of said load resistance
3 section.

1 Claim 7 (original): A negative ion emitting apparatus as defined in claim 3, wherein the
2 amount of negative ions emitted is varied by varying a load resistance of said load resistance
3 section.

1 Claim 8 (original): A negative ion emitting apparatus as defined in claim 4, wherein the
2 amount of negative ions emitted is varied by varying a load resistance of said load resistance
3 section.

1 Claim 9 (original): A negative ion emitting apparatus as defined in claim 1, wherein a
2 plurality of said discharge electrode sections are arranged;

3 a distributor is arranged between said discharge electrode sections and said DC
4 high-voltage power supply section and provided therein with an additional load resistance
5 section; and
6 said DC high-voltage power supply section and said discharge electrode sections
7 are connected to said distributor.

1 Claim 10 (original): A negative ion emitting apparatus as defined in claim 2, wherein a
2 plurality of said discharge electrode sections are arranged;
3 a distributor is arranged between said discharge electrode sections and said DC
4 high-voltage power supply section and provided therein with an additional load resistance
5 section; and
6 said DC high-voltage power supply section and said discharge electrode sections
7 are connected to said distributor.

1 Claim 11 (original): A negative ion emitting apparatus as defined in claim 3, wherein a
2 plurality of said discharge electrode sections are arranged;
3 a distributor is arranged between said discharge electrode sections and said DC
4 high-voltage power supply section and provided therein with an additional load resistance
5 section; and
6 said DC high-voltage power supply section and said discharge electrode sections
7 are connected to said distributor.

1 Claim 12 (original): A negative ion emitting apparatus as defined in claim 4, wherein a
2 plurality of said discharge electrode sections are arranged;

3 a distributor is arranged between said discharge electrode sections and said DC
4 high-voltage power supply section and provided therein with an additional load resistance
5 section; and

6 said DC high-voltage power supply section and said discharge electrode sections
7 are connected to said distributor.

1 Claim 13 (original): A negative ion emitting apparatus as defined in claim 5, wherein a
2 plurality of said discharge electrode sections are arranged;

3 a distributor is arranged between said discharge electrode sections and said DC
4 high-voltage power supply section and provided therein with an additional load resistance
5 section; and

6 said DC high-voltage power supply section and said discharge electrode sections
7 are connected to said distributor.

1 Claim 14 (original): A negative ion emitting apparatus as defined in claim 6, wherein a
2 plurality of said discharge electrode sections are arranged;

3 a distributor is arranged between said discharge electrode sections and said DC
4 high-voltage power supply section and provided therein with an additional load resistance
5 section; and

6 said DC high-voltage power supply section and said discharge electrode sections
7 are connected to said distributor.

1 Claim 15 (original): A negative ion emitting apparatus as defined in claim 7, wherein a
2 plurality of said discharge electrode sections are arranged;

3 a distributor is arranged between said discharge electrode sections and said DC
4 high-voltage power supply section and provided therein with an additional load resistance
5 section; and

6 said DC high-voltage power supply section and said discharge electrode sections
7 are connected to said distributor.

1 Claim 16 (original): A negative ion emitting apparatus as defined in claim 8, wherein a
2 plurality of said discharge electrode sections are arranged;

3 a distributor is arranged between said discharge electrode sections and said DC
4 high-voltage power supply section and provided therein with an additional load resistance
5 section; and

6 said DC high-voltage power supply section and said discharge electrode sections
7 are connected to said distributor.

1 Claim 17 (currently amended): A negative ion emitting method comprising the
2 step of connecting at least one load resistance section between a DC high-voltage power supply
3 section and at least one discharge electrode section having a proximal end and a distal end, to
4 thereby restrict flowing of electrons from said DC high-voltage power supply section to said
5 discharge electrode section for enabling an emission of negative ions from said discharge
6 electrode section, wherein said discharge electrode section is operatively connected at a proximal
7 end to said load resistance section so that current flows from said DC high-voltage power supply
8 section through said load resistance section to the proximal end of said discharge electrode
9 section causing negatively charged electrons to be emitted from the distal end of said discharge
10 electrode section.

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1 Claim 18 (previously amended): A negative ion emitting apparatus as in claim 3 wherein
2 the load resistance section includes carbon having a resistance of 20 Ω and the DC high-voltage
3 power supply section to provide 5kV.

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1 Claim 19 (previously added): A negative ion emitting apparatus as in Claim 9 wherein
2 the load resistance section is carbon in each of said discharge electrode sections and the
3 additional load resistance section in the distributor is carbon.

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1 Claim 20 (previously amended): A negative ion emitting apparatus as in claim 19
2 wherein the respective carbon sections have a resistance of 20 Ω and the DC high-voltage power
3 supply section provides 5kV.

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1 Claim 21 (currently amended): A negative ion emitting apparatus comprising:
2 a DC high-voltage power supply section;
3 a first needle point metal electrode; and
4 a first load resistance section including carbon of approximately 20 Ω connecting
5 the DC high-voltage power supply section to limit the first needle point metal electrode from
6 emitting negative ions until a predetermined voltage is applied by the DC high-voltage power
7 supply section, whereby at the predetermined voltage the negative ions are forcibly emitted in a
8 non-thermal manner.

1 Claim 22 (previously added): A negative ion emitting apparatus as in Claim 21 wherein
2 a second needle point metal electrode and a second load resistance section including carbon is
3 connected to the DC high-voltage power supply section and a common load resistance section is

- 4 connected to the respective first and second load resistance sections in series with the DC high-
- 5 voltage power supply section.
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